GAATTCGGCACGAGGCAGACCTTTAGTGAGCACACTTCACTCTGGAACAAAGCTACTGG GCTTCTCTTCTGATGCCATGGATGATGGGCATCAAGAGTCAGCTCTGTACGATGGGCACT ACGAGGGAGATTTCTGGCTCTTCAACAATTCCAGTGATAACAGCCAGGAGAACAAACGCT TCCTAAAGTTCAAGGAGGTCTTTTTGCCCTGTGTGTACCTGGTAGTGTTTGTCTTTGGAC TGCTAGGAAACTCCCTGGTTCTGATTATATACATTTTCTACCAGAAGCTGAGGACTCTGA CAGATGTGTTTCTGCTGAACTTGCCCCTGGCTGACCTGGTGTTTGTCTGTACTCTGCCCT TTTGGGCCTATGCAGGCACCTATGAGTGGGTCTTTGGCACAGTCATGTGCAAAACTCTTC GAGGCATGTATACAATGAACTTCTACGTGTCCATGCTCACTCTCACCTGCATCACAGTGG ATCGTTTCATTGTAGTGGTCCAGGCTACCAAGGCCTTCAACCGGCAGGCTAAGTGGAAGA TCTGGGGCCAAGTCATTTGCTTGCTCATTTGGGTGGTCTCCCTGTTGGTTTCTTTGCCAC AGATCATCTATGGCCATGTTCAAGATATTGACAAGCTTATCTGTCAGTACCACAGTGAGG AGATATCCACTATGGTTCTTGTTATACAGATGACTCTGGGGTTCTTCCTGCCATTGCTCA CTATGATTCTGTGCTACTCAGGCATTATCAAGACCTTGCTTCATGCTCGAAACTTCCAGA AGCACAAATCTCTAAAGATCATCTTCCTTGTAGTGGCTGTGTTCCTGCTGACCCAGACAC CCTTCAACCTTGCCATGTTAATCCAAAGTACAAGCTGGGAGTACTATACCATAACCAGCT TTAAGTATGCCATCGTAGTGACAGAGGCTATAGCATACTTTCGGGCTTGCCTTAACCCTG TACTTTATGCCTTTGTTGGCTTAAAGTTCCGGAAGAACGTCTGGAAACTTATGAAGGATA TCGGCTGCCTCTCACCTGGGAGTCTCAAGTCAATGGAAGTCTTCTGAGGACAGTTCCA AGACTTGTTCTGCCTCCCACAATGTAGAGACCACCAGTATGTTCCAATTGTAGTAGGCCT TGCCACACTTAGAGAAGTTAATAACAGAATTCTAGGAGCATGGCTGTATCATTTGGATGC AACAAGAAAAGCTTTGCTTATAGCATGTGGAGTATCATGGAGAAGCCTGAC (SEQ ID NO:1)

MDDGHQESALYDGHYEGDFWLFNNSSDNSQENKRFLKFKEVFLPCVYLVVFVFGLLGN SLVLIIYIFYQKLRTLTDVFLLNLPLADLVFVCTLPFWAYAGTYEWVFGTVMCKTLRGM YTMNFYVSMLTLTCITVDRFIVVVQATKAFNRQAKWKIWGQVICLLIWVVSLLVSLPQII YGHVQDIDKLICQYHSEEISTMVLVIQMTLGFFLPLLTMILCYSGIIKTLLHARNFQKHKS LKIIFLVVAVFLLTQTPFNLAMLIQSTSWEYYTITSFKYAIVVTEAIAYFRACLNPVLYAFV GLKFRKNVWKLMKDIGCLSHLGVSSQWKSSEDSSKTCSASHNVETTSMFQL (SEQ ID NO:2)

BOLD = deleted in targeting construct

UNDERLINED = sequence flanking Neo insert in targeting construct

GAATTCGGCACGAGGGCAGACCTTTAGTGAGCACACTTCACTCTGGAACAAGCTACTGG GCTTCTCTGATGCCATGGATGATGGGCATCAAGAGTCAGCTCTGTACGATGGGCACT <u>ACGAGGGAGATTTCTGGCTCTTCAACAATTCCAGTGATAACAGCCAGGAGAACAAACGCT</u> TCCTAAAGTTCAAGGAGGTCTTTTTGCCCTGTGTGTACCTGGTAGTGTTTGTCTTTGGAC TGCTAGGAAACTCCCTGGTTCTGATTATATACATTTTCTACCAGAAGCTGAGGACTCTGA CAGATGTGTTTCTGCTGAACTTGCCCCTGGCTGACCTGGTGTTTTGTCTGTACTCTGCCCT TTTGGCCTATGCAGGCACCTATGAGTGGGTCTTTGGCACAGTCATGTGCAAAACTCTTC **GAGGCATGTATACAATGAACTTCTACGTGTCCATGCTCACTCTCACCTGCATCACAGTGG** ATCGTTTCATTGTAGTGGTCCAGGCTACCAAGGCCTTCAACCGGCAGGCTAAGTGGAAGA TCTGGGGCCAAGTCATTTGCTTGCTCATTTGGGTGGTCTCCCTGTTGGTTTCTTTGCCAC <u>AGATCATCTATGGCCATGTTCAAGATATTGACAAGCTTATCTGTCAGTACCACAGTGAGG</u> AGATATCCACTATGGTTCTTGTTATACAGATGACTCTGGGGTTCTTCCTGCCATTGCTCA CTATGATTCTGTGCTACTCAGGCATTATCAAGACCTTGCTTCATGCTCGAAACTTCCAGA AGCACAATCTCTAAAGATCATCTTCCTTGTAGTGGCTGTGTTCCTGCTGACCCAGACAC CCTTCAACCTTGCCATGTTAATCCAAAGTACAAGCTGGGAGTACTATACCATAACCAGCT TTAAGTATGCCATCGTAGTGACAGAGGCTATAGCATACTTTCGGGCTTGCCTTAACCCTG TACTTTATGCCTTTGTTGGCTTAAAGTTCCGGAAGAACGTCTGGAAACTTATGAAGGATA TCGGCTGCCTCTCACCTGGGAGTCTCAAGTCAATGGAAGTCTTCTGAGGACAGTTCCA AGACTTGTTCTGCCTCCCACAATGTAGAGACCACCAGTATGTTCCAATTGTAGTAGGCCT TGCCACACTTAGAGAAGTTAATAACAGAATTCTAGGAGCATGGCTGTATCATTTGGATGC AACAAGAAAAGCTTTGCTTATAGCATGTGGAGTATCATGGAGAAGCCTGAC (SEQ ID NO:1)

Gene Sequence
Structure *

Size of full-length
cDNA: 1251 bp

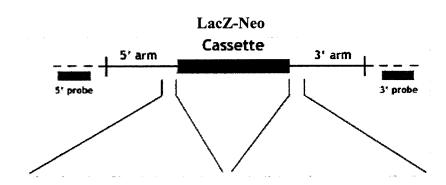
Targeting Vector* (genomic sequence)

Arm L ngth:

5': 1.5 kb **3**': 4.5 kb

- Targeting Vector
- - - Endogenous Locus

* N t drawn to scale



5'>AAAGACAGTGGGAAGAAAGAA TGTCACTCAGACATACCCAAATAT AACTTTTAGGTTCTGACTCACAGA TGTTTGCCCCAACAGATGCCATGG ATGATGGGCATCAAGAGTCAGCTC TGTACGATGGGCACTACGAGGGAG ATTTCTGGCTCTTCAACAATTCCA GTGATAACAGCCAGGAGAACAAAC GCTTCCTAAAG<3'

(SEQ ID NO:3)

5'>CAGGCACCTATGAGTGGGTCT TTGGCACAGTCATGTGCAAAACTC TTCGAGGCATGTATACAATGAACT TCTACGTGTCCATGCTCACTCTCA CCTGCATCACAGTGGATCGTTTCA TTGTAGTGGTCCAGGCTACCAAGG CCTTCAACCGGCAGGCTAAGTGGA AGATCTGGGGCCAAGTCATTTGCT TGCTCATTTGG<3'

(SEQ ID NO:4)